The Songwriting Coalface: Where Multiple Intelligences Collide

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Abstract
This paper investigates pedagogy around songwriting professional practice. Particular focus is given to the multiple intelligence theory of Howard Gardner as a lens through which to view songwriting practice, referenced to recent songwriting-specific research (e.g. McIntyre, Bennett). Songwriting education provides some unique challenges; firstly, due to the qualitative nature of assessment and the complex and multi-faceted nature of skills necessary (lyric writing, composing, recording, and performing), and secondly, in some less-tangible capacities beneficial to the songwriter (creative skills, and nuanced choice-making). From the perspective of songwriting education, Gardner's MI theory provides a 'useful fiction' (his term) for knowledge transfer in the domain, especially (and for this researcher, surprisingly) in naturalistic intelligence.

Keywords: Songwriting, multiple intelligences, creativity, higher education

Introduction

From a research perspective, we do not seek a *scientific theory* of songwriting, for there exists no single, perfect, repeatable answer to the question of how to write a song. What is needed is a synthesis of objective scientific analyses, combined with an appreciation of the subjective nature of song and its reception by an audience, in order to understand and educate students of songwriting. Bennett usefully identifies song in terms of lyric, melody and chords (2011), a traditional perspective which distinguishes between the melody as sung and the chords (harmony) that serve to provide context for that melody. Stepping beyond that traditional perspective and recognising the important role of song recording-as-text, rather than score-as-text, any definition of song must reflect the changing emphasis away from melody and towards rhythmic elements, and the shifting influence of producers. For this perspective (reflecting the professional practice of working creative agents), the term 'music', is considered to include melody, harmony, rhythm, and production. For clarity, this essay applies a quite specific definition of contemporary song;

> Contemporary Song: A short musical work (including lyrics) influenced by and directed toward contemporary western popular music culture.

While scholars and institutions have for some time studied and taught popular music from a socio-cultural perspective, a review of songwriting-process literature reveals that popular, contemporary songwriting practice has not been widely researched academically and that the existing literature is often either skewed towards Euro-classical harmony, African-American jazz theory or American Midwestern lyric-writing conventions. In terms of the teaching of songwriting, the literature that has so admirably served students of classical and jazz music up until the mid-twentieth century is inadequate and often inappropriate for songs written since the paradigm-shifting 1960s (McDonald, 2000; Middleton, 1990, 2013, Tagg, 2008, 2009, 2011, 2012).

A broader view of intelligence

Howard Gardner has challenged the notion of intelligence as merely 'scholastic capacity', and explored a wider range of human cognitive capacities (2006, p. 71) especially relevant to education;

> I argue that there is persuasive evidence for the existence of several *relatively autonomous* human intellectual competences, abbreviated hereafter as 'human intelligences'. These are the 'Frames of Mind' of my title (...) I have developed a framework that, building on the theory of multiple intelligences, can be applied to any educational situation. (Gardner, 1983, p. 8)

His original thoughts on a definition for intelligences were stated in terms of a potential or capacity (1983, p. 73), later refined as follows; 'intelligence is a biopsychological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value to the culture' (2006, pp. 33–34). This definition, much broader than that applied to general intelligence, provides some valuable distinctions to songwriting educators and to the wider education community.

A useful fiction

Gardner provides an illuminating caveat to highlight his construct:

> These intelligences are fictions – at most, useful fictions – for discussing processes and abilities that (like all of life) are continuous with one another (…) our intelligences are being separately defined and described strictly in order to illuminate scientific issues and to tackle pressing practical problems. (Gardner, 1983, p. 74)

The construct of multiple intelligence theory as a useful fiction suggests a useful perspective from which to view songwriting education, and his seven (1983) original multiple intelligences, plus the eighth, added some time later (1999, p. 48) are listed here with suggestions for investigation pertaining to songwriting;

(1) **logical-mathematical** (music notation, compositional logic, western harmony),
(2) **musical** (aural, listening, analysis, appreciation, understanding),
(3) **verbal-linguistic** (lyrics, vocal techniques, affective elements),
(4) **visual-spatial** (perception of aural space, and temporal issues),
(5) **bodily-kinesthetic** (instrumental performance, singing),
(6) **intrapersonal** (creativity, metacognitive process, reflection, flow, authenticity),
(7) **interpersonal** (relationships, collaboration, audiences, bands, institutions, social constructs including genre, authenticity), and
(8) **naturalistic** (identification and evolution of song 'species', antecedents, pattern-recognition).

What is sought is an understanding of how songwriting decisions are made, that is, acts of agency that seem to be at first glance mysterious or at least non-logical. For this researcher/educator, the development of a 'feel' for songwriting is reachable by any student, through study and practice. Phillip McIntyre discusses these concepts at some depth in his work on songwriting;

> Each writer had become so thoroughly immersed (Weisberg, 1999) in the domain of contemporary Western popular music songwriting that it appears to them to have become tacit (Schon, 1983, p. 52), so much so that a ''feel' (Braheny, 1988, p. 8) for how to write songs became evident. (…) The process of domain acquisition has resulted in an available body of knowledge readily and, in Bastick's terms, intuitively accessed and processed by these songwriters. In Bourdieu's terms, they acquired the habitus of songwriters. (McIntyre, 2008, p. 47)

The Eight Intelligences at work in Songwriting

Musical-aural intelligence

Gardner is a pianist as well as an eminent psychologist. His 1983 definition of a musical intelligence read as follows:

> Musical intelligence: the abilities of individuals to discern meaning and importance in sets of pitches rhythmically arranged and also to produce symmetrically arranged pitch sequences as a means of communicating with other individuals. (Gardner, 1983, p. 103)

Philip Tagg's notion that the meanings we assign to the music we hear are culturally learned (Tagg, 2012), rings true for this researcher, as the music of unfamiliar cultures can be culturally baffling and emotionally bewildering. Having grown up in a western culture, immersed in a lively, swirling, participatory experience of music and song from very early childhood, I was exposed to a wide range of enculturating musical influences. Access to music culture was plentiful, and came via radio, television, recording technology, Euro-classical music, African-American styles including the blues, the church choir, the pipe organ, and Bach, as well as the pianoforte, the electric guitar, the internet and YouTube.

> 'Great musicians seem to be unusually sensitive to sounds even in their earliest years' (Csikszentmihalyi in Sternberg, 1999:329) but, as Csikszentmihalyi also asserts, the evidence suggests that this may not be directly causal. In fact, this sensitivity may turn out to be the resultant effect of long periods of concentration in this area. (McIntyre, 2003, p. 231)

All these elements of immersion combined to lay the foundations of a musical intelligence relevant to Western song and songwriting capacity. It involved: pitch awareness and recognition; chord texture/ colour recognition; timbral recognition; rhythmic nuances of meter, tempo and syncopation; knowledge of, and familiarity with, the symbol system of music notation; and aural, theoretical, kinesthetic, visual memory in performance; and experience and confidence performing and communicating music and songs.

Linguistic-verbal intelligence

> Among the oldest symbolic systems in the world are those organised around the content and rules of language; the first narrative stories telling of real or imaginary events, the myths and campfire tales of our ancestors, extended dramatically the range of human experience through imagination. The rhyme and metre of poetry created patterns of order that must have seemed miraculous to people who had yet scarcely learned to improve on the precarious order of nature. And when the discovery of writing made it possible to preserve memory outside the fragile brain, the domain of the word became one of the most effective tools and greatest sources of pride for humankind. Perhaps, only art, dance and music are more ancient. (Csikszentmihalyi, 1997, p. 238)

In the realm of linguistic-verbal capacities, connected as it is to the domain of songwriting, the capacity to sculpt an appropriate lyric is arguably the most consuming aspect of songwriting, and of particular interest to this discussion. Although one of many elements required in a song, lyric-writing presents a disproportionate challenge for songwriters; how best to communicate an abstract or concrete message or attitude effectively, within the rhythmic, melodic, harmonic and structural constraints of contemporary song. It is not hard to view lyric-writing as a confluence of linguistic, musical, naturalistic, logical, spatial (temporal), intra-personal and intrapersonal capacities. Effective lyric writing is not just a semantic confluence of words with penumbras of meaning - it also encompasses syntactical conventions (conversational, vernacular, localised and genre-specific tribal idioms), functional, pragmatic constraints

(song length, message, target audience demographic, reach), and, importantly, phonology (the sound of the words and syllables themselves).

> At best, a [songwriter]'s job is to pour new wine into old bottles, to retell in a new way the same emotional predicament that humans have felt since the beginnings of time. (…) [songwriters] know that the power of words depends on how they are used: so they enjoy playing with them, stretching their meanings, stringing them in novel combinations, and polishing them until they shine. (Csikszentmihalyi, 1997, p. 239) [denotes paraphrasing]

Bodily-kinesthetic intelligence

This explicit quote from 1588 is attributed to 'Thoinot Arbeau' or Father Jean Tabourot;

> Dancing is practiced to make manifest whether lovers are in good health and sound in all their limbs, after which it is permitted for them to kiss their mistress, whereby they may perceive if either has an unpleasant breath or exhales a disagreeable odour as of bad meat; so that in addition to divers other merits attendant on dancing, it has become essential for the wellbeing of society. (Tabourot, in Sparshott, 1988, p. 22)

So what does a songwriter need to consider regarding bodily-kinesthetic intelligence, in order to '*make manifest whether lovers are in good health and sound in all their limbs'*, or in the context of this research, respond to expert and audience evaluations in such a way as to improve their songwriting? For songwriters, an adequate degree of bodily-kinesthetic skills is a not essential, but it is certainly an asset. For singer/songwriters who do both simultaneously in performance, perhaps accompanying themselves on the piano or guitar, it is helpful to rehearse the instrumental aspect to the point of automaticity, such that the focus of attention can be on the important vocalisation of the lyric, with appropriate pitch, expression and nuance.

> ...deep immersion provides extensive opportunities for practising any skills, such as playing the piano, required to create within the domain, which makes them automatic. Automaticity of skills may be necessary for the production of novelty, for example, improvisation of new melodies. (Weisberg, in Sternberg, 1999, p. 247)

Entrainment, Beat Induction, and Corporeal Appropriation. Humans engage with the rhythm of songs through the process of *entrainment*, a bio-musicological term, which in the songwriting sense, refers to the synchronisation of the listener to an external rhythm, such as dancing or tapping the feet. *Beat induction* is 'the cognitive skill that allows us to hear a regular pulse in music to which we can then synchronize' (Honing, 2012). Put simply, listeners try to predict accurately the beat, move their bodies to the pulse, and immerse themselves thereby, in the music. In *Music, Language, and the Brain*, neuroscientist Ani Patel refers to it as 'beat-based rhythm processing' (2007, pp. 402–415). Unlike some other animal species, human hearts and bodies tend to synchronise with the musical pulse, and we can cognitively *induce* when the next beat will occur. This ability to predict the regularity of the up-coming pulse, anticipating it, allows us to participate with our bodies, and be rewarded for successfully moving to its pulse.

There are many things songwriters would find useful about this process. For example, the human heart beats between 60-80 beats-per-minute (BPM) when we are resting, and over 150 BPM when we are undergoing vigorous sport, work, or dancing. Dance music is often in the 130-140 BPM range. Heavy Metal is '*heavier'* than Speed Metal due to the much slower tempo, and songs that contemplate love, relationships, and emotion usually reflect a reasonably relaxed but thoughtful state of approximately 70 to 90 BPM. Between 90 and 130 BPM are tempo ranges that are flexible and sit between sensual, active, different dance styles such as narrative, country.

Immersion vs. Insertion. These factors of tempo, entrainment, beat induction and rhythmic groove, support a perspective where a distinction is made between songs that invite *immersion,* and songs that invite *insertion*, that is to describe the activity of allowing oneself to become physically immersed or inserted into the groove;

> Phil Spector's 'wall of sound' invites the listener to immerse himself in the quasi-Wagnerian mass of sound (…) this can be contrasted with the open spaces and more equal lines of typical funk and reggae textures, which seem to invite the listener to insert himself in those spaces and actively participate. (Middleton, 1990, p. 89)

In the 'wall of sound' model, with the placement of the lead vocal as a foreground to the balanced, blended background, Middleton suggests that the listener is *immersed*. In the funk or reggae models, the listener is *inserted.* That choice of verb is revealing. The former models are typically *so* musically dense that the listener becomes *immersed* in the over-whelming arrangements and participates passively, swept away by a textural tidal wave. The latter forms, however, leave rhythmic gaps of syncopation, and some sonic room for the singer or listener to *insert* themselves, and actively participate in the mid- and back-grounds of the more open arrangements of funk and reggae. The resultant engagement is equally compelling, and represents the kind of audience preference easily identified by performing band musicians who observe audience responses on the dance-floor.

Logical-mathematical intelligence

> There is no doubt that individuals who are mathematically talented often show an interest in music. I think that this linkage occurs because mathematicians are interested in patterns, and music offers itself as a gold mine of harmonic, metric and compositional patterns. (Gardner, 2006, p. 74, 75)

The advent of personal computers and Digital Audio Workstations (knowns as DAWs - a generic title for composing and recording programs) has changed the songwriting landscape. Their use has highlighted the need for a developed logical-mathematical capacity in order that the conceptual physics and mathematics of sound, pitch, audio, acoustics, and music may be logically addressed and marshalled into a recording. Logic capacities are useful to the songwriter in a wide range of activities during the songwriting process; understanding and applying melodic, harmonic and rhythmic theory, where intellectual memory is applied as a performance aid, in using computer programs for song production, in the application of thematic development and sequential patterns in melody, song procedures, that is, patterns of structure, and in problem solving. To the working songwriter, mathematical perspectives may be subliminal, integrated at the below-conscious level and embedded as part of the habitus of the songwriter rather than consciously and overtly considered during songwriting process itself. However, mathematical skills are employed in understanding; the logarithmic nature of pitch, and volume; the physics of the harmonic series, acoustics, and electronics; and in rhythm, where bars are divided into 8, 12, and 16 rhythmic subdivisions (and those subdivisions themselves divided into halves or thirds, commonly). The discriminant pattern-recognition of harmonic, melodic, metric and compositional patterns is a significant element of logical-mathematical skills.

Spatial-visual intelligence

For songwriters, spatial and visual capacities are less to do with being able to draw, design, sculpt or paint, and more to do with a visualisation of the *aural* space created in the recording mix to suggest the 'virtual' placement of instruments and voices, as well as the *temporal* space incorporating the rhythm, tempo, meter and groove. In addition, an *architectural* notion of space within the recorded artefact is important in the form of the sectional and structural design of the song over time, including the visual representation of performance instructions on a chart or score. As such, we can consider three spatial factors in the recording of the song artefact; *architectural, aural* and *temporal* space.

Architectural Space. Thistlethwayte uses a 'luggage in a room' metaphor to describe song architecture:

> …it's more like rooms, and luggage in a room. (…) The different parts of the song are like a bunch of different rooms that you can walk into and build a little house, (…) and making one section different, (…) to kind of interior decorate all those rooms in their own way, but it still works under the one roof. There's a 'blockiness' and 'boxiness' to houses and there's also a 'blockiness' and 'boxiness' that can happen with songs. (Thistlethwayte, 2015)

This architectural design metaphor is supported by Grammy-award-winning songwriter Jimmy Webb, where walls are represented by lines and song sections, and structural elements such as verses, choruses etc. are the virtual 'rooms' of the song (Webb, 1999, Chapter 4).

Aural Space. Spatial-visual capacity is brought into play when considering the aural space created in the production and mixing of a song recording. Panning (sweeping from left to right, or vice-versa) across the stereo image, the placement of sounds across the width of a mix created by the sonic landscape creates an impression or image of width. If panning is considered the 'first dimension' spatially, then depth or density could be considered a 'second dimension.' Listeners perceive not only left and right images but also a sense of how far away elements are, and how 'thick' the combination is. A view of the various note pitches and the frequency range of audio perceived can be considered as 'vertically' represented giving a third spatial dimension. Applying the first three dimensions of Euclidean space is not new – 3D imagery is often used in the field of sound mixing – and certainly, volume is a major consideration for the mix engineer and the composer. From a fourth dimensional point of view, volume is separate in this model from height, width and depth. Notions of crescendo, diminuendo, loudness, absolute volume, compression, limiting, fade-ins, fade-outs, breakdowns, dips, beat-drops and outros all reference a change of experienced volume, and dramatically and powerfully contribute to the heard artefact. However, overall and individual volume considerations come relatively late in the song recording procedure.

Temporal Space. Music, like dance, is a time-based art form, and all four dimensions described above, that is, width, depth, height, and volume, are subject to variations over time. The fifth element, time, has significance in multiple ways - the length of the song, the pace or tempo at which the song and its lyrics are 'delivered', and the temporal relationships within the song as well as all of those considerations of rhythm and groove so important to the engagement of the listener. During the songwriting procedure temporal considerations exert their influence in the early stages, sometimes even before lyrics, melody and harmony are considered, as a groove template is established to lay a rhythmic foundation for lyric and harmony development. In that scenario, the songwriter's spatial focus might be time (groove), then lyric writing, followed by height (melody and harmony) in order to create a simple demo recording. Once the rhythmic groove, lyrics (linguistic intelligence) melody and harmony (musical intelligence) have been recorded, reverb (depth) panning (width) and volume can be manipulated to create a demo 'mix', as described by McIntyre;

> Mixing is the blending of various sounds into a cohesive combination that satisfies various musical, sonic, technical, commercial and personal criteria. It involves, amongst many other things, volume balancing, creating relationships in three-dimensional sonic space through the judicious use of panning and use of effects such as delay and reverb, equalising various components of the mix to have them sit comfortably within the audio spectrum. (McIntyre, 2007)

The notion of 'mixing in five dimensions' presented here is not a recommendation to be adopted by recording engineers, it is simply a model based on professional practice for highlighting the architectural and temporal nature of song recording and mixing, that is, another '*useful fiction*' for analysis.

Interpersonal intelligence

Songwriters who tell stories of urban, rural, or other experiences do so from a particular perspective; that of someone empathetic with the subject of the song and with an awareness of the commonality of experience shared by the audience, a crucial constituent of the field. Following Stuart Hall's (1973) work on encoding and decoding, McIntyre discusses three ways an audience may approach a text. They may engage with it via a preferred reading, an oppositional reading, or via a negotiated reading (2003, p. 80). The songwriter has an intent as to what the song will mean to others (preferred reading), but is sometimes surprised at the audience's interpretation (negotiated reading) or even confronted with an unexpected negative response (oppositional reading). It is the responsibility of the songwriter to present the song as a communication and be prepared for the audience to take a preferred, negotiated, or oppositional reading of the song text. The songwriter initiates the conversation, as it were, to a group of complete strangers via some media distribution method, in the hope of connecting with some in a positive way (preferred reading) and accepting that some or many of the audience will interpret the song differently (negotiated reading) and some may even have a negative response (oppositional

reading). Applying Sternberg, Kaufman and Pretz's 'Propulsion Theory of Creativity' (2002), we can identify several forms of useful song 'propulsion' likely to be accepted into the cultural domain. For *forward incrementers* and *replicators,* the game is to identify which song elements resonate with the target demographic, and reproduce those elements with just enough novelty and variation to be selected by the same group as a worthy addition to the style. For *synthesists,* the game becomes capturing what is supported by two separate styles and finding novel and useful hybrids that win favour with the fans of both styles, and minimise the distance they must travel from their favoured style in order for the field to accept the hybrid.

Intrapersonal intelligence

In a spoken presentation at Yale University, songwriter Neil Finn alluded to feelings of warmth, remote analogies, and notions of incubation in his reference to the echoes, shadings, feelings and impressions of the subconscious, and reflected on his metacognitive self-awareness, that is, thinking about thinking. The following quote can be compared with notions of convergent and divergent thinking, hypnogogic reverie, remote-analogy, and feelings of warmth;

> Creation I think is consciously and conspicuously making something that didn't exist before, and I think it's when you combine your intellect and your instinct to draw out your ideas from the subconscious that are connected to feelings and impressions. I think in the conscious mind these are only really visible as little echoes and little shadings; things you can't put your finger on. (Finn, 2012)

Beyond the common practice of writing relationship-based songs, it would appear that metacognitive awareness, the capacity for self-reflection and self-evaluation, is a valuable asset amongst songwriters. One aspect of intrapersonal capacity, or metacognition in practice, manifests in the songwriter as an ability to observe oneself during the act of songwriting and to reflexively adjust one's process to produce a more successful outcome. This ability includes the capacity to evaluate 'how one is doing', and to evaluate whether one is focussed on the job at hand, or has one's attention dispersed from what is important. The type of self-evaluation of a creative pursuit such as songwriting, where multiple solutions to the 'what is my next song?' question are possible, is distinctly different from the much clearer goal when pursuing a better instrumental performance through repeated practice.

An evaluation that one has improved as a songwriter may be hard to assess from song to song, as one may need to write ten songs before observing measurable improvement. In performance-centred situations, gradient improvement may be observable in a quantitative way from day to day, as one plays a passage measurably better, faster, or with less performance errors. The capacity for controlling and working with the inner world of emotions and thoughts, however, entails a finely tuned introspective capacity. The examination, then, of one's own thoughts and feelings has an important position in the realm of the lyricist and is an example of what Gardner, referring to Sigmund Freud, identifies as 'creativity through the use of (…) intrapersonal examination of one's thoughts and feelings' (Gardner, 1993, p. 81).

Naturalistic Intelligence

Similar to Perkins' Darwinian reference that 'each generation of an organism yields a range of variants, each variant constitutes a trial' (in Boden, 1996, p. 126), Joe Bennett takes a view of song 'evolution, where music fans 'select' songs, unselected songs don't 'survive', and songwriters provide a form of 'reproduction' inasmuch as they write subsequent, slightly varied songs' (2012), and extends the metaphor to include song mutations. A Darwinesque 'survival of the species' appears to be at play based upon whether or not the field is likely to accept the song artefact as a worthy inclusion in the domain. It is argued that the capacity of songwriters to correctly identify song species correlates with Gardner's eighth *naturalistic* intelligence (1999) where discriminant pattern recognition leads to the unique distinctions of the inculcated songwriter. An example of such a unique distinction, where a species of song with a high survival potential in the Australian market ('pub rock') was observed, is described by INXS songwriter Farriss where, 'the first really big successful song that started to tell us we were on the right track with that, was *Don't Change'* (2015). After touring North America, however, an important further unique distinction, contrasting the first, was made. The funk stylings of *Original Sin*, endorsed by producer Nile Rogers, gave them confidence to shift their songwriting, in an example of *reinitiation* in propulsion terms, back to what was to become identifiably their own rock/funk hybrid style;

> We're going 'well this is pretty quickly moving away from pub rock' as we're sitting and playing with these dudes, you know? (…) *That's* where I began to feel our 'rocket' if you like, was beginning to get a lot more heat because we were like 'OK, well in other words you don't have to follow that pub-rock mentality, you can go anywhere you want, right? (…) What that means is we can go back into that earlier work that we liked to do, that had funk and rock and whatever, and start to really mess around with that shit. (Farriss, 2015)

Gardner suggests that the pattern-recognising talents of artists, poets, social scientists, and natural scientists are all built on the fundamental perceptual skills of *naturalistic intelligence* (1999, p. 50, 2006, p. 19). Where Charles Darwin *saw* patterns, songwriters *hear* patterns. For songwriters, the patterns of lyrics, melody, chords, rhythm and structure are everywhere; embedded in the songwriting domain the songwriter has access to via immersion in it. Songwriters develop their habitus through recognising patterns, relationships, antecedents, style evolution and hierarchies, where the *species* is song, and songwriters, audience and intermediaries are all active participants in its evolution. While Simonton states, in *Origins of Genius: Darwinian Perspectives on Creativity,* that 'the creative mind represents the single most potent Darwinian force on the planet' (1999, p. 74), Gabora contests his notion of '*secondary Darwinism*', stating, 'there is no reason evolution must be Darwinian, or even involve selection except as a special case' (2005, p. 9) and a lively decade-long debate continues (Gabora, 2015; Simonton, 2014, 2015). Having experienced multiple examples of such natural selection in professional practice, the perspective of this researcher falls in with Bennett and Simonton. If songwriting is one of Gabora's special cases, it is an important, diverse and exemplary case familiar to prolific songwriters, with multitudinous supporting examples, and arguably not special, but commonplace.

Naturalistic intelligence capacity then, is neither remote nor irrelevant to the songwriter. It is vital to domain acquisition, relevant at every turn to artefact evaluation, and a powerful differentiator between moderate and outstanding songwriting outcomes. Significantly, this type of domain acquisition relies for its development largely on self-directed, informal immersion in the sub-culture and is not normally included in formal music education.

Conclusions and Further Research

In multiple intelligence theory, Gardner presents a useful tool for songwriting practitioners - the 'eight intelligences' view represents a construct for examining alternative songwriting practice that is relevant to the transfer of songwriting domain knowledge within the cultural milieu. This essay speaks to the following distinctions; that at various stages in the songwriting process, songwriters may use all eight multiple intelligences; that musical-aural and linguistic-verbal skills are prerequisite capacities; that inculcation in the songwriting domain provides the expertise to apply the logical-mathematical skills of chord theory, recording, and composition; that consideration of three spatial factors in the recording of the song artefact - *architectural, aural* and *temporal* space - provides a useful 'fiction' to conceptualize this process; that greater authenticity of voice and style can be achieved as instrumental and/or vocal performance skills (bodily-kinesthetic capacity) blossom through directed practice; and that those songwriters with well-developed interpersonal, intrapersonal, and naturalistic capacities are highly valued and more likely to be selected by the field (experts and audiences) for their ability to reflect specifically and consistently what is valued, novel and non-obvious to the audience.

The capacity of songwriters to correctly identify and reproduce accurate song 'species' is usefully expressed by Gardner's construct of *naturalistic* intelligence. Songs survive or become extinct based on the field's evaluation and a Darwinesque survival of the fittest is at play based upon whether or not the 'field' accepts the song artefact as a worthy inclusion in the domain. Songwriting based upon deep immersion in a specific song style has a tendency to garner industry support, as the field recognises the near-analogous nature of the song, validating the propulsion theory of Sternberg, Kaufman and Pretz (2002). Gardner's useful fiction has clear and immediate value for songwriters, students and teachers of songwriting.

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